

# **Integrating Dynamic Pricing with Energy Efficiency Programs**

*Can it be done?  
Should it be done?  
What are the barriers?*



# Getting Serious About Energy Efficiency and Demand Response

*Integration is the only option!*

Can it be done ?

YES



Should it be done ?

YES



What are the barriers ?      Organizational Inertia



# How to integrate Efficiency and Demand Response.

## Redefine the Basic Customer Rate

- Time varying rates provide customers with long-term incentives to shift usage, conserve and invest in more efficient end-uses.
- Dispatchable rates reflect market or system conditions that provide customers with short-term incentives to shift usage or reduce service levels to preserve system reliability.
- Critical Peak Pricing integrates long-term and short-term incentives into a single rate structure.



# A Basic Market Problem

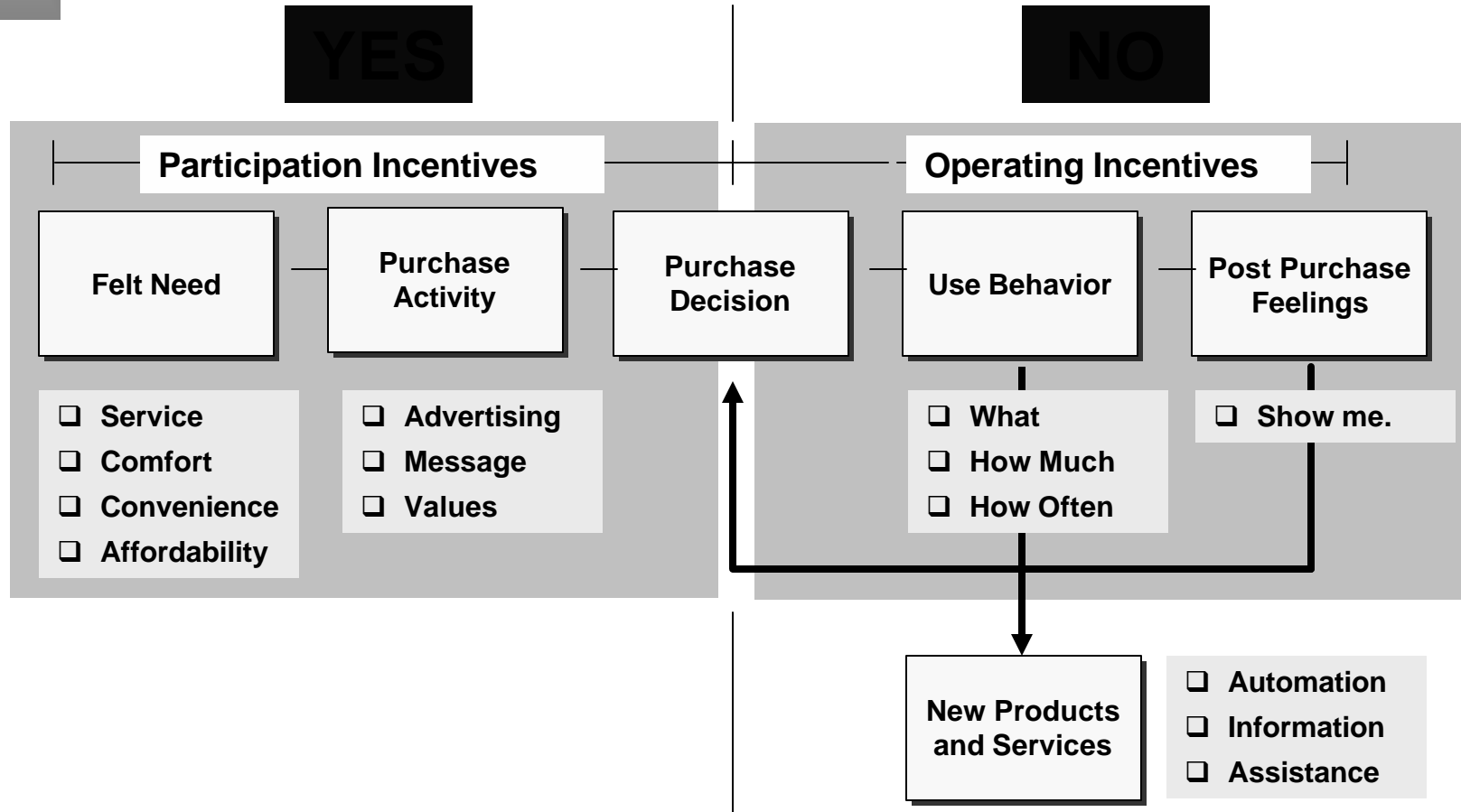
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## Four Basic Questions.

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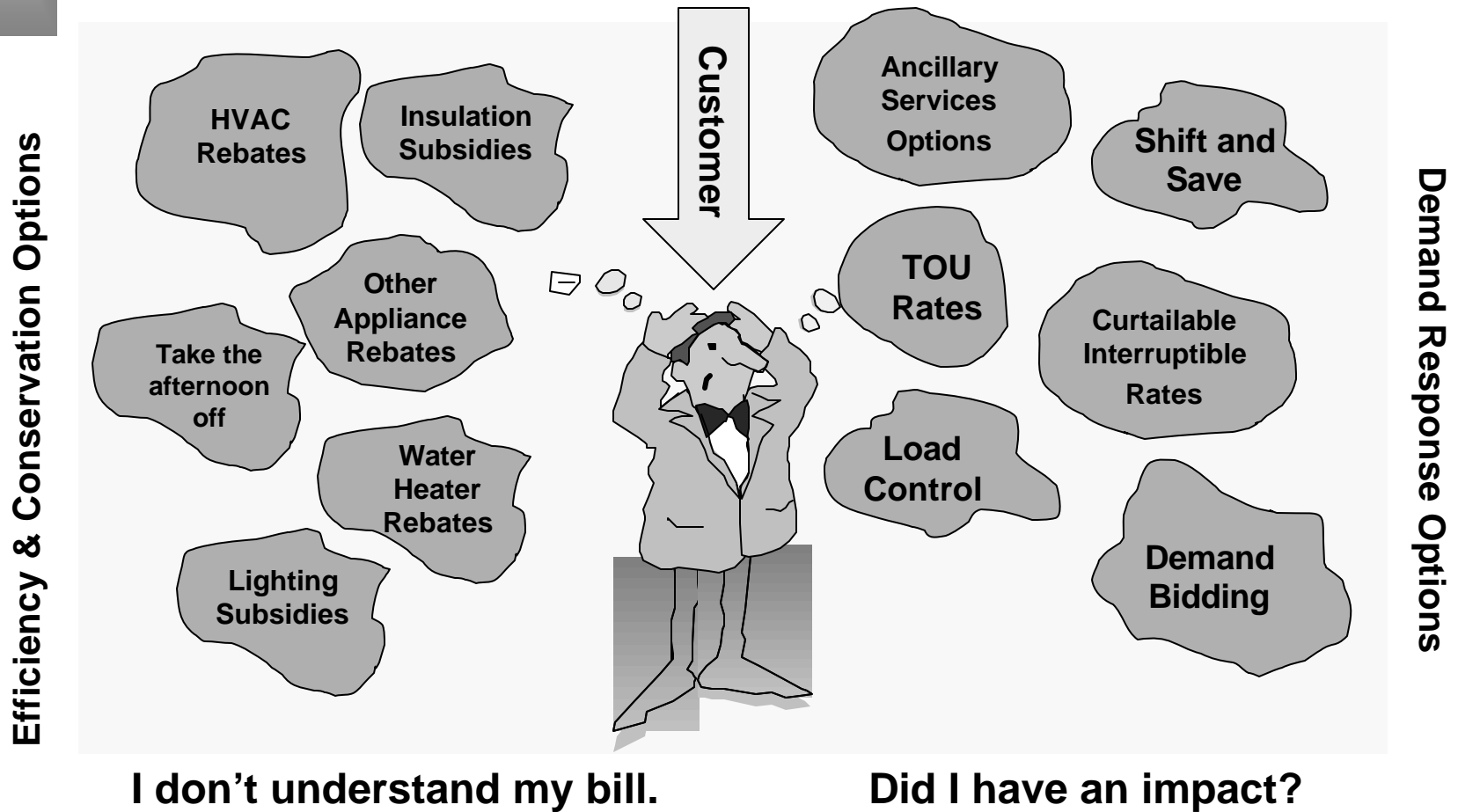
- Who are the customers ?
- What do they want ?
- How do they buy ?
- How do they use the product ?

# What Model do we follow ?



Why

# Is there a problem ?



# Are there problems ?

## Customer Perspective

- **Customers don't understand how electricity use is measured.**
- **Customers don't understand how electricity is priced.**
- **There is an uncertain and inaccurate link between how customers use energy, what they pay and what they get in service value.**
- **Bill accuracy – customer's must trust their supplier. No other choice.**

Source: 1- Residential Customer Understanding of Electricity Usage and Billing, Momentum Market Intelligence, WG3 Report, January 29, 2004.pviii-ix.

2 – CEC interpretation.

# Are there problems ?

Utility / Regulator  
Perspective

Evaluating  
Impacts

- ☐ Complex uncertain evaluation models.
- ☐ Comparing efficiency and DR to generation.

Equity

- ☐ Pay for participation or for performance?
- ☐ Participants vs. non-participants.

Gaming

- ☐ Efficiency - Free riders.
- ☐ DR – Free riders.

Program  
Costs

- ☐ Duplicate administrative and overhead costs.
- ☐ Cash flow.



# Rate Incentives - Problem or Solution ?

## Air Conditioner Load Control Example

### Participation Incentive

| Customer Usage Group | Incentive \$/kW Load Reduction |
|----------------------|--------------------------------|
| Lowest User          | > \$1,000.00                   |
| Low User             | \$31.25                        |
| Average User         | \$3.38                         |
| High User            | \$1.69                         |
| Highest User         | \$0.63                         |

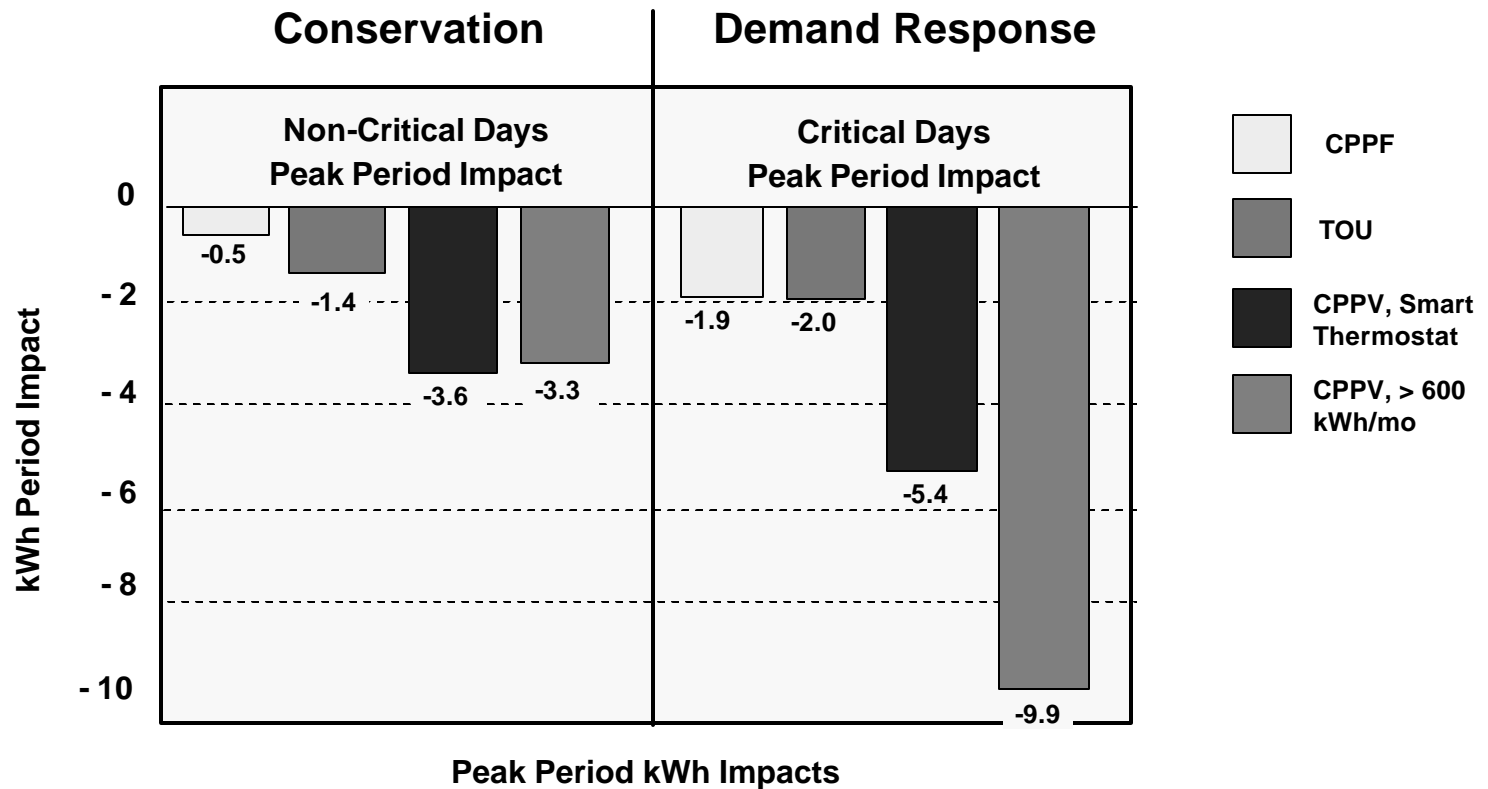
- \$50 annual participation payment
- 40 hours of operation/curtailment per season

### Rate-Based Operating Incentive

| Single Peak Day AC Cost           |             |              |
|-----------------------------------|-------------|--------------|
| Rate Option                       | Lowest User | Highest User |
| Inverted Tier<br>(2:00 to 7:00pm) | \$0.92      | \$5.28       |
| TOU<br>(2:00 to 7:00pm)           | \$1.72      | \$5.93       |
| Critical Peak<br>(4:00 to 7:00pm) | \$3.94      | \$12.14      |

Assumes equal monthly customer bill under Inverted Tier, TOU and CPP rates.

# Integrated Rates Create Opportunities ?



Source: Statewide Pricing Pilot Summer 2003 Impact Analysis, Charles Rivers Associates, March 9, 2004.

# Will Customers Accept New Rates ?

